

SPECTRUM



VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

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TODAY'S EDITION
See page 2 for
information on programs
and activities.

Coal center garners \$7.9-million contract

By Lynn Nystrom

The U.S. Department of Energy (DOE) has awarded a \$7.9-million contract to Virginia Tech's Center for Coal and Minerals Processing (CCMP) to demonstrate the commercial potential of new coal-production techniques, according to Ninth District Congressman Rick Boucher.

Although companies have mined coal on a large scale since the Industrial Revolution, they still must discard a significant portion of the coal fines generated during the mining operations due to the difficulty in cleaning and handling.

The DOE estimates that more than 2.5 billion discarded tons of fine coal sits in various impoundments around the country.

The DOE-Virginia Tech contract provides for industry to test two different processes that may solve this major environmental problem.

The technologies, developed by minerals engineers at Virginia Tech, will be tested at four locations, including one of the largest coal-preparation plants in the U.S., owned by CONSOL Energy.

"Our de-watering technology allows coal companies to recover coal from waste products. We kill two birds with one stone. The process recovers valuable coal from waste and, at the same time, eliminates fine-coal impoundments that are a significant environmental concern," said Roe-Hoan Yoon, Virginia Tech mining and minerals engineering (MinE) professor and CCMP director.

"The technology we developed here can help companies reduce the costs of producing coal and thereby help increase the use of coal," Yoon said.

Processing fine coal is the most difficult and costly part of producing the solid fuel, Yoon said. Impurities such as sulfur and other mineral

matter are removed from the coal by washing it in water. However, the cost of separating water from the fine coal particles made during processing is too high. Consequently, many coal producers are forced to discard the fines to impoundments and recover only the coarse coal.

Virginia Tech's new technologies will now allow coal companies to remove the water from fine coal efficiently, and to recover high-quality solid fuels from the waste streams.

"The costs of implementing the new technologies are low," Yoon said, "and their commercial application will not entail environmental problems."

Yoon's prediction of a low cost for implementation is based on case studies performed by his research center during the Phase I portion of this work, funded also by DOE.

One Phase I case study conducted on a
(See COAL on 2)



CLAUS

Claus named outstanding state scientist

By Lynn Nystrom

Rick Claus, a distinguished professor in the Electrical and Computer Engineering Department, has received Virginia's Outstanding Scientist Award for 2001.

Claus, who is director of the Fiber and Electro-Optics Research Laboratory (FEORC), was specifically cited for his work in fiber optics and nanotechnology, as well as in micro-electronics.

Research done in the laboratory under Claus's direction resulted in a new process to manufacture thin films that has "environmental, economic, manufacturing, and productivity implications for the multi-billion micro-electronics industry," said F. William Stephenson, dean of the College of Engineering, where the process was fabricated. Stephenson nominated Claus for the award from the Virginia Science Museum.

The thin films were made using a novel self-assembly process. The piezoelectric/electrostrictive films have the potential to be used to design micro-electronic mechanical

(See CLAU on 4)

Tech among top five in ag research

By Stewart MacInnis

Virginia Tech has been named one of the top five agricultural-research institutions in the nation by the National Science Foundation (NSF).

The university jumped from last year's ranking of number 10 to the number-five position this year, placing it in the NSF's top tier of institutions in terms of total research expenditures in the agricultural sciences. The ranking is for the 1999 budget year, the last year for which figures are available.

"I was delighted and proud to see Virginia Tech ranked fifth among all universities in the country in agricultural-research expenditures," said Andy Swiger, dean of the university's College of Agriculture and Life Sciences. "This is a great tribute to our faculty. Modern technology is providing unlimited opportunities for agriculture to alleviate hunger and provide a nutritious, healthy food supply for people throughout the world."

The NSF reported agricultural research and development dollars expended at Virginia Tech for 1999 at \$59,805,000, an increase of nearly \$5.5 million over the 1998 figure.

Kriton Hatzios, associate dean for research in the college and director of the Virginia Agricultural Experiment Station, noted that the increased tempo of research which has propelled Virginia Tech to a national leadership position has been accomplished with a modest increase in faculty members, and few new research facilities.

"Our researchers are making world-class contributions to science, but they are
(See TECH on 4)



HEAR YE. Judge Joe Brown, a non-traditional judge with his own television show, was the keynote speaker last week for this year's Black History Month celebration. (J. McCormick)

VMRCVM faculty member earns national award for teaching

By Jeffrey S. Douglas

A neurobiologist in the Virginia-Maryland College of Veterinary Medicine has been named the nation's best teacher in veterinary medicine.

Bradley Klein, an associate professor in the Department of Biomedical Sciences and Pathobiology, has been awarded the national Carl J. Norden Distinguished Teacher Award.

Several thousand faculty members at the nation's 31 North American veterinary colleges annually compete for institutional Norden awards. Those winners are then evaluated by the Association of American Veterinary Medical

College's (AAVMC) National Norden Selection Committee and a "veterinary educator who epitomizes what is good and excellent in education is selected," according to AAVMC documents.

"I'm pretty excited," said Klein, who joined the college in 1988. "It's nice to know that the work I put into teaching is appreciated."

Klein's distinction as national teacher of the year is unusual on two fronts. First, he is a biomedical scientist with a Ph.D. and not a doctor of veterinary medicine. The nation's top teaching award usually goes to a faculty member
(See AWARD on 3)

Eyre reports on provost search

By John Ashby

Dean Peter Eyre updated the provost-search process at the February 5 meeting of the University Council.

Eyre said the search committee has narrowed the field to seven semi-finalists. The candidates were scheduled to be interviewed off-campus beginning Monday, Feb. 12. From the seven candidates, the committee expects to choose three or four candidates who will be brought to campus for a full-scale interview.

"The committee is very pleased with the
(See EYRE on 4)

ACTIVITIES

EVENTS

Friday, 16

Salary and Wage Paydate.
ULD Training Program, 8:30 a.m.-noon, DBHCC room F: 1-6727 to register.
UOIP Workshop, 2-4 p.m., 1020 Torgersen: 1-5888 for information.

CAS Dean's Interdisciplinary Task Force Speaker, 3:30 p.m., 1020 Torgersen: Gary Selnow, World Internet Resources for Education/Development.

Saturday, 17

Black History Month Event, 10 a.m.-noon, War Memorial Hall: Call 961-5407 for information.

Men's Basketball, noon, Cassell Coliseum: Connecticut.

CAS Dean's Interdisciplinary Task Force Speaker, noon-2 p.m., 1020 Torgersen: Gary Selnow, World Internet Resources for Education/Development.

University Chamber Music, 8 p.m., Squires Recital Salon: 1-5615 for reservations/tickets.

Sunday, 18

Engineers' Week Begins.
YMCA Hike, 1:30 p.m., Lancaster House parking lot.
Women's Basketball, 2 p.m., Cassell Coliseum: Boston College.

University Chamber Music, 3 p.m., Squires Recital Salon: Wind Instrument Chamber Music.

Monday, 19

Presidents' Day Staff Holiday.
University Council, 3-5 p.m., 1045 Pamplin.
American Indian Speaker, 7 p.m., DBHCC auditorium: 1-5468 for information.

Tuesday, 20

CEUT, 2:30-3:30 p.m., Hillcrest large conference room: Margaret Hable.

Black History Month Event, 7-10 p.m., Squires Black Cultural Center: Call 1-5168 for information.

Faculty Senate, 7 p.m., 32 Pamplin.

VTU Lively Arts, 7:30 p.m., Burruss auditorium: Godspell.

Men's Basketball, 7:30 p.m.: At Providence.

Public Lecture, 8 p.m., Squires Colonial Hall: Dick Neves.

Wednesday, 21

Gallery Opening, Armory Gallery: Walter Clark (Through 3-30).

Family/Work/Life Resources Program, noon-1 p.m., 404 Clay St.

CEUT, 2:30-4:30 p.m., Hillcrest large conference room: www.ceut.vt.edu to register.

Black History Month Event, 4-5 p.m., DBHCC room A: Call 552-2298 for information.

"With Good Reason," 7 p.m., WVTF: Topic TBA.

Women's Basketball, 7 p.m., Cassell Coliseum: Providence.

Black History Month Event, 7 p.m., DBHCC auditorium: Call (540) 200-1585 for information.

Black History Month Concert, 7:30 p.m., Lyric Theatre: Call 951-4771 for information.

Einstein's Dreams Film/Discussion, 8-10:30 p.m., 1250 Torgersen: 1-2375 for information.

Thursday, 22

Black History Month Luncheon, 11:30 a.m.-1:30 p.m., Green Garden Cafe: Call 1-3168 for information.

YMCA Slide Show, noon, Cranwell Center: Doug Martin.

Banner Users' Group Presentation, 1:30-3 p.m., Squires Brush Mountain Room: srb144@vt.edu or 1-1715 to RSVP.

CEUT, 2:30-4:30 p.m., Hillcrest large conference room: www.ceut.vt.edu to register.

Black History Month Event, 6 p.m., Squires Old Dominion Ballroom: Call (540) 553-3448 for information.

TA-UT/NRVS 8 p.m., Squires Haymarket Theatre. *A Little Night Music.*

Friday, 23

Last Day to Drop.
TA-UT/NRVS 8 p.m., Squires Haymarket Theatre. *A Little Night Music.*

SEMINARS

Friday, 16

Highlands in Chemistry, 11:15 a.m., 3 Davidson: Mark Lipton, Purdue.

MCBB, 12:20-1:10 p.m., 102 Fralin: Asim Esen.

Monday, 19

Horticulture, 4 p.m., 409 Saunders: Vince Rubatzky, U.C. Davis.

Wednesday, 21

ESM, 4-5 p.m., 110 Randolph: S. A. Ambartsumian, Penn State.

Thursday, 22

Plant Physiology, 4 p.m., 409 Saunders: S.K. DeDatta, CSES, 4 p.m., 246 Smyth: Gaber M. Hassan.

Friday, 23

Highlands in Chemistry, 11:15 a.m., 3 Davidson: Dan Comins, NC State.

MCBB, 12:20-1:10 p.m., 102 Fralin: Tommy Nilsson, EMBL.

BULLETINS

Lecturer to give talk on Scottish language

Robin R. Mackenzie, of Edinburgh, Scotland will be delivering "Scots/English, English/Scots: Inhabiting the Paradox" at 4 p.m. on Monday, Feb. 26 in 120 Williams. Mackenzie was principal of Basil Paterson College in Edinburgh for 21 years and is now an English Language School consultant and a lecturer for Virginia Tech's study-abroad program. His presentation is sponsored by the English Department and open to the public.

Banner Users' Group presents overview

The Banner Users' Group is holding an overview of the student-information system on February 22, from 1:30-3 p.m. in Squires Brush Mountain Room. Information about training will be followed by a discussion of on-going enhancements to the student system, the overall vision for the system, and future plans. Employees from Enrollment Services and the Provost's Office will join the audience for a question-and-answer session.

Banner Users' Group programs are open to anyone interested who is associated with Virginia Tech. RSVP to srb144@vt.edu or 1-1715.

CNS explains calling plan

Communications Network Services (CNS) has recently noted some misunderstanding about charges for calls placed on campus under the "Community Choice Plan." Faculty and staff members and students on campus may call Alum Ridge, Ballard, Floyd, Locust Grove, Newport, Pembroke, and Willis, Virginia (exchanges 763, 593, 745, 651, 544, 626 and 789) from the main campus or DBHCC without dialing the 540 area code. However, these are not local calls and are billable. Calls placed to these locations from on-campus phones will be charged at a rate of five cents per minute, 24 hours a day, seven days a week, and will appear on the department's monthly telecommunications bill. For a table of rates, visit www.cns.vt.edu/dept/bi_01.html. For information on long-distance rates, see www.cns.vt.edu/student/st_idr.html. For more information, contact CNS at 1-6460.

Neves to speak on mollusk preservation

Dick Neves, a Tech fisheries professor who was featured in this month's *Nature Conservancy Magazine* for his research to preserve mussels, will speak at a public lecture on Tuesday, Feb. 20 at 8 p.m. in Squires Colonial Hall. His topic is "A Modern Noah's Ark Story: Saving Freshwater Mollusks from Extinction," and the event is free.

American Indian educator to speak

Henrietta Mann, endowed chair of Native American studies at Montana State University, will talk on "Living as a Sacred Relative" at 7 p.m. on Monday, Feb. 19 in the Donaldson Brown auditorium. A reception will follow in the Squires Jamestown Room. The event is free and open to the public. Mann's visit is sponsored by the American Indian Studies Program, the Department of English, the Women and Minority Artists and Scholars Series, the Dean of Students Office, and the College of Human Resources and Education. For information, call Harry Dyer at 1-5468.

New housing matrix serves as national resource

By Sarah Newbill

Thinking innovatively about housing policy, the Virginia Center for Housing Research has recently introduced a new on-line web matrix providing help for cities, planners, housing advocates and neighborhood groups all over the nation.

The site provides a comprehensive approach to housing policies in an attempt to get cities to address all aspects of the housing market, and to help them develop much more multi-faceted policies to approach housing problems. Center Director Ted Koebel hopes this site will encourage localities to put more program information up on the web so it can be

shared with other areas. "We hope that people across the country will provide us comments, suggestions, and particularly provide us web links and examples of policies and specific programs we can link to, so that New York can see what San Francisco is doing and vice versa."

The policy matrix began as an effort in Koebel's Housing Policy Seminar class as a graduate seminar in urban affairs and planning. The matrix is categorized by neighborhood income levels. Under each level is a list of issues and problems associated with each. For example, in the 80-100-percent area median-family-

income level (or upper middle class), one important and pressing issue is a low amount of renovation and rehabilitation activity for middle and upper-end housing. The matrix currently lists nearly a dozen links to other sites that have policies and programs in place to address this. The site can be accessed at <http://www.caus.vt.edu/CAUS/RESEARCH/vchr/VCHR.html>.

For more information, contact Ted Koebel via e-mail at tkoebel@vt.edu, or by phone at 1-3993.

COAL

Continued from 1

Virginia coal company showed that it could increase its revenue by \$3.4 million a year using the new technology by removing only one third of the water left in the fine coal. If one half of the water is removed, that number jumps to \$4.6 million.

The new funding award to Virginia Tech is a continuation of the DOE's Solid Fuels and Feedstocks Grand Challenge program, aimed at "developing innovative technical approaches to ensure a continued supply of environmentally sound solid fuels for existing and future combustion systems with minimal incremental fuel cost." The Solid Fuels and Feedstocks Program is managed by the Energy Department's National Energy Technology Laboratory, the government's lead fossil-energy research facility.

EMPLOYMENT

CLASSIFIED POSITIONS

The following classified positions are currently available. More details of these positions, specific application procedures and position-closing dates may be found on the Personnel Services web site at <http://www.ps.vt.edu>. Available positions are also listed on the Job Line, a 24-hour recorded message service. For information on all job listings, call 1-5300. Some of the following positions include state benefits. Positions with numbers beginning with a "W" are hourly and do not include state benefits. Individuals with disabilities desiring assistance or accommodation in the application process should call by the application deadline. Closing date for advertised positions is 1 p.m. Monday. An EO/AA employer committed to diversity..

FULL TIME

Four full-time food-service positions available..

Administrative Assistant, 002618R, Pay Band 3, Office of Sponsored Programs.

Administrative Assistant, 002811R, Pay Band 3, Executive Vice President.

Administrative Assistant, 001228R, Pay Band 3, Office of Scholarships/Financial Aid.

Administrative Assistant, 002025M, Pay Band 2, CVM—Dean's Office.

Assistant Counselor, 006557R, Pay Band 3, Scholarships/Financial Aid.

Banquet Manager (Food Operations Manager Assistant), 001118G, Pay Band 3, DBHCC.

Budget Analyst, 001908F, Pay Band 4, Office of Budget/Financial Planning.

Business Development Director, 007568T, Pay Band 5, ECE/MPRRG.

Buyer Senior (Contracts Officer), 001593F, Pay Band 4, Purchasing.

Cashier, 000772H, Pay Band 1, RDP/Dietrick Express.

Computer Systems Engineer, 001894L, Pay Band 5, CS.

Computer Systems Engineer, 006991J, Pay Band 5, RGS.

Computer Systems Engineer, 007691T, Pay Band 5, ESM.

Computer Technician, 007712R, Pay Band 3, VBI.

Course Developer/Web Designer, 007726D, Pay Band 5, IDDL.

Data Warehouse Architect, 006930L, Pay Band 5, ISC.

Database And Application Development Specialist, 007230R, Pay Band 5, RGS.

Electrician, 007565G, Pay Band 3, Physical Plant.

Electronics Technician, 007656J, Pay Band 4, VTTI.

Enrollment Specialist, 001675B, Pay Band 3, Dean CAS.

Executive Assistant, 007720R, Pay Band 3, VTTI.

Executive Chef, 000266H, Pay Band 4, RDP/Shultz Dining Center.

Fiscal Technician Senior, 004047B, Pay Band 3, Chem E.

Housekeeping Supervisor, 000824H, Pay Band 2, RDP.

Housekeeping Worker, 001631G, Pay Band 1, DBHCC.

Housekeeping Worker Senior, 002745H, Pay Band 1, RDP.

Housekeeping Worker Senior, 006926H, Pay Band 1, RDP.

Interpreter For The Deaf, 007472J, Pay Band 3, Dean of Students.

Lab Specialist, 007706B, Pay Band 3, Chemistry.

Lab Specialist, 000799B, Pay Band 3, Biology.

Laboratory Specialist, 007245M, Pay Band 3, Biochemistry.

Laboratory Specialist, 006375M, Pay Band 4, FST.

Laboratory Specialist, 007707B, Pay Band 3, CE.

Laboratory Specialist Advanced, 002118J, Pay Band 4, HNF.

Laboratory Specialist Senior, 003159M, Pay Band 4, CVM.

Large Animal Supervisor, 006998M, Pay Band 4, Veterinary Teaching Hospital.

Library Assistant, 006664F, Pay Band 3, University Libraries: Art/Architecture Library.

Manager Of Development Communications, 007400D, Pay Band 5, University Development.

Materials Control Coordinator, 007590A, Pay Band 3, CNS.

Medical Technologist, 002584M, Pay Band 4, Veterinary Teaching Hospital.

Office Services Specialist, 001286F, Pay Band 2, Purchasing.

Office Services Specialist, 004497F, Pay Band 2, Purchasing.

Office Specialist, 000160H, Pay Band 2, RDP/Business Services.

Operating Systems Analyst, 000871L, Pay Band 5, Computing Center.

Operations Assistant, 000704H, Pay Band 1, RDP/Deet's Place.

Parking Enforcement Officer, 007221R, Pay Band 1, Parking Services.

Parking Enforcement Officer, 007038R, Pay Band 1, Parking Services.

Program Support Technician, 001522B, Pay Band 3, Political Science.

Public Relations Coordinator, 000413R, Pay Band 5, Undergraduate Admissions.

Public Relations Specialist, 006837R, Pay Band 4, WSFP.

Research Engineer, 007634R, Pay Band 4, VCCER.

Security Lead Guard (Parking Enforcement Off.), W020119G, Pay Band 1, Parking Services.

Senior Internal Auditor, 007408R, Pay Band 5, IAMS.

Shop Leader, 000567H, Pay Band 1, RDP/Cochrane—West End Market.

Snaps Security Guard, 007722C, Pay Band 1, Police.

Software Developer, 007690T, Pay Band 5, ESM.

Sous Chef, 000940H, Pay Band 3, RDP/Southgate Bake Shop.

Sous Chef, 007266H, Pay Band 3, RDP/Dietrick Dining Hall.

Staff Internal Auditor, 007724R, Pay Band 4, IAMS.

State Efnep/Scnep Program Support Technician, 005297J, Pay Band 3, HNF.

Technical Writer/Editor, 007721R, Pay Band 3, CWC.

Telecommunications Network Technician, 006965A, Pay Band 3, CNS.

Trades Utility Worker, 002216C, Pay Band 1, DBHCC.

PART TIME

Animal Care Technician/Small Animal, W022675M, Pay Band 1, Veterinary Teaching Hospital.

Application Processor, W022876R, Pay Band 3, Undergraduate Admissions.

Associate Managing Editor, 023207B, Pay Band 3, Sociology.

Banquet/Setup (Foa-b), W022143G, Pay Band 1, DBHCC.

Computer Network Support Tech, W023174G, Pay Band 4, Police.

Course Development Specialist, 007708M, Pay Band 4, Entomology.

Executive Secretary, 004557R, Pay Band 3, CNR.

Field Technician Assistant (Telecommunications), W023203A, Pay Band 2, CNS.

Two part-time food-operations positions available.

Head Teacher, Child Development Lab, W023205J, Pay Band 4, Human Development.

Housekeeping Worker, W022490H, Pay Band 1, RDP.

Housekeeping Worker, W020574G, Pay Band 1, DBHCC.

Housekeeping Worker, W020214J, Pay Band 1, Health Center.

Laboratory Specialist, W023209M, Pay Band 3, Dairy Science.

Laboratory Technician, W023208M, Pay Band 2, Entomology.

Office Services Specialist, W023188R, Pay Band 2, Provost's Office.

Payroll Technician, W023145M, Pay Band 2, Veterinary Teaching Hospital.

Pharmacist (Relief), W022501M, Pay Band 6, Veterinary Teaching Hospital.

Radiologic Technologist, W022238J, Pay Band 3, Health Center.

Radiologic Technologist, W022412M, Pay Band 3, Veterinary Teaching Hospital.

Recreation Center Specialist, W023211J, Pay Band 2, UUSA.

UNIVERSITY ONLY

Library Specialist, U023210F, Pay Band 4, Library—Reference Dept.

OFF CAMPUS

Enrollment Program Assistant, 002091J, Pay Band 3, Northern Virginia Center.

Radio Announcer, W020800L, Pay Band 3, University Relations/WVTF Radio.

Research Specialist Senior, 006504R, Pay Band 4, CMI.

Underwriting Account Executive, 001963L, Pay Band 3, WVTF.

Web Administrator/Graphic Designer, 007725J, Pay Band 5, Northern Virginia Center.

FACULTY POSITIONS

NON-INSTRUCTIONAL

Atletics. Director of Men's/Women's Track/Field/Cross-Country. Contact: Pam Linkous, 359 Jamerson (0502). Deadline: March 5.

International Research/Development. Africa IPM Link Assistant Program Coordinator/OIRD Web Site Manager. Contact: S.K. De Datta, 1060 Litton Reaves (0334). Deadline: March 1 or until filled.

Residential/Dining Programs. Area Coordinator/Residence Education. Contact: Larry Robertson, 109 E. Eggleston (0428). Deadline: March 1.

Residential/Dining Programs. Residence Directors (2). Contact: Gail Kirby, 109 E. Eggleston (0428). Priority application deadline is March 1.

University Libraries. Coordinator of Special Collections. Contact: Cathy Pillow, Personnel Services, University Libraries, Virginia Tech, P.O. Box 90001, Blacksburg, VA 24062-9001. Review begins late March.

Virginia Tech Transportation Institute. Human Factors Research Scientist. Contact: Tracey Schroeder, Administrative Director, VTTI, 3500 Transportation Research Plaza, Blacksburg, VA 24060. Deadline is Feb. 23.

AWARD

Continued from 1

who is a DVM.

Second, Klein's subject area, neuroscience, is often viewed as notoriously complex and difficult by veterinary students.

"This is the first time one of our faculty members has earned this prestigious national award and we are understandably very proud of Dr. Klein," said VMRCVM Dean Peter Eyre. "The fact that he has achieved this national distinction while teaching in such a challenging area speaks volumes about his gifts as a teacher."

Klein's strategy for teaching excellence is to prepare, organize, clarify and underscore the relevance of the field to everyday life.

"It is very complex material so I try and

simplify it and break it down into pieces that the students can take away and remember," said Klein, who earned his Ph.D. from City University of New York while conducting research at New York City's American Museum of Natural History. "I try and use everyday analogies to illustrate the concepts I am teaching."

Forexample, he brought in an electric guitar to illustrate that there is an orderly relationship in frequencies produced by the instrument and an orderly relationship of frequencies that can be processed by the inner ear's basilar membrane, the first section of the auditory system responsible for interpreting sound.

Klein conducted a National Institutes of Health sponsored post-doctoral fellowship in neuroanatomy and neurophysiology at the Robert Wood Johnson Medical School of the University

of Medicine and Dentistry of New Jersey following his graduate work at CUNY.

He is currently working with entomology Professor Jeff Bloomquist on a U.S. Army-funded project designed to explore a possible relationship between pesticide exposure and the development of Parkinson's disease-like symptoms.

Funded with a grant from the university's Center for Innovation in Learning, he developed a computer-based learning tool that featured digital representations of a variety of nervous-system laboratory specimens. Before its development, veterinary students could only inspect the specimens in the lab.

Klein has also headed up the neurosciences option within the university's emerging Biological Sciences Initiative.



VIRGINIA POLYTECHNIC INSTITUTE
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Johnson assists with Slovenia project

By Lynn Davis

Slovenia was one of the first eastern European countries to emerge out of the former Yugoslavia in the early 1990s. "As a country in a transition to a free-market economy, Slovenia has had to make some remarkable shifts in all aspects of life, including forestry," said Jim Johnson, forestry and associate dean for Extension and Outreach. "Under the old communist system all forest land was owned and controlled by the government, but under the democratic society, forest land has been returned to private ownership—providing an opportunity for our college to assist in making the transition smooth."

The new forest owners are struggling with many of the same problems and concerns shared by American forest owners. Varying management objectives, problems with storm damage, insects and diseases, markets, finding good labor, and locating funding to accomplish management objectives are all prevalent.

"But a problem that is unique," Johnson points out, "is the relationship between the forest owners and the Slovenian Forest Service (SFS)—the government agency that in former times controlled the forest land and dictated how it was to be managed."

In the past 10 years the Slovenian Forest Service has found itself transformed from a regulatory and control-oriented agency to one that operates more like a state agency or extension service here in the U.S. Slovenian forest owners are now free to pursue objectives

and U.S. management strategies that would never have been allowed just a few short years ago. Johnson said, "while many Slovenian foresters embrace this change, many others are having a very difficult time adjusting to this new role. The Slovenian Forest Service, with the assistance of the Food and Agriculture Organization (FAO) of the United Nations, has recently embarked on an exciting program to re-position itself as a major service and education provider to the forest owners of the country."

A group of highly motivated foresters was selected to begin an intensive training program, and they would then become trainers for other foresters. During a several-week session in November the trainers learned about participatory methods, educational strategies and distance learning, principles of adult education, communications, as well as other topics. Instructors came from Slovenia, the FAO in Rome, Italy, Scotland, Germany, and the United States.

Johnson, who was brought in as a technical expert on Extension strategies in forestry, provided a day of training on topics such as determining educational objectives, defining a subject audience, developing and delivering educational programs, evaluating educational programs, and preparing educational materials. He also assisted with a field day in which the participants interacted with forest owners from the local region.

UOIP highlights international education in January visit to legislators on Capitol Hill

By Jeanne M. Garon

As the 107th Congress and the Bush administration settled in during January, Virginia Tech joined 200 other international educators in making their voices heard in Washington.

Christine Jarchow and Jeannie Bonner of the University Office of International Programs (UOIP) joined fellow members of NAFSA (Association of International Educators) in Washington January 29-30 to advocate directly to Congress the importance of international education and exchange. The activities were part of NAFSA's annual Washington Leadership Meeting.

"Virginia Tech is actively and increasingly involved in global-education programs," Jarchow said. She said the university's study-abroad programs in 50 countries attracted 768 participants during the 1999-00 academic year, a 46-percent increase in participation since 1997-98. During 1999-2000, she said, Tech also hosted 1,529 international students from 108 countries, exposing Tech's majority of domestic students to international cultures while stimulating the local economy.

While on Capitol Hill, Jarchow and Bonner shared the university's international-education success stories and pointed to the need for a

nation-wide commitment to international education and exchange. They also pressed Virginia's legislators to co-sponsor Senate Concurrent Resolution 7, recently entered by senators John Kerry (D-Mass.) and Richard G. Lugar (R-Ind.) to establish "an international education policy to enhance national security and significantly further United States foreign policy and global competitiveness."

Jarchow and Bonner were greeted by Virginia Tech graduates serving as educational liaisons and legislative correspondents while they visited the offices of senators John Warner and Rep. Boucher.

Other international educators participating in NAFSA's Washington Leadership Meeting raised such issues as the need for increased funding for exchange programs, the importance of encouraging more U.S. students to study abroad, and the urgency of developing a coordinated strategy to attract international students to U.S. higher-education institutions. NAFSA members believe that international education is in the national interest of the United States and that citizens with international experience and global awareness are crucial to America's prosperity and leadership.

CLAUS

Continued from 1

systems (MEM's) devices and sensors.

Claus said these films have a number of advantages over previous technologies. Primarily, they can be synthesized at room temperature and pressure, resulting in very low-cost manufacturing. This process is also environmentally friendly, leaving no volatile organic compounds and consuming negligible power.

The near-perfect thin-films can be used in numerous applications, including integrated-circuit devices, power distribution and control devices, communication devices and networks, transportation systems, computer hardware systems, bio-sensing devices, and eyeglass lenses.

Regarding the last application, Jim Barney, vice president, account management, The Magnum Group, who supported Claus' nomination for the award, said, "A market need exists in the eye-care industry for improved methods for thin-film coating of spectacle lenses with anti-reflective properties, cosmetic tints and protective coatings, among others."

"Dr. Claus was invaluable in evaluating the specific optical industry needs and applying his research in nanotechnology that will represent a significant advance in the performance of organic/inorganic thin films," Barney said.

Nanostructured materials—in the form of an alloy such as a metal or a ceramic—are made of the same atoms as their more common forms, but the atoms are arranged in nanometer-size clusters that become the building blocks of the new materials. These new small particles have remarkable electronic, optical, mechanical and other properties in comparison to larger bulk materials of the same molecular composition. But the trick in making them useful is to collect very large numbers of the nanoclusters and then be able to form them into larger physical systems, with control at the molecular level.

FEORC, the first Center for Innovative Technology (CIT) Technology Development Center in Virginia, established in 1985, has a track record for providing both the science and

engineering aspects of new technology. Within FEORC, and as its director, Claus has submitted more than 100 patent disclosures and published more than 800 papers in lightwave technology and applications. FEORC is also currently supported by more than 30 research sponsors.

"Dr. Claus, as a recognized leader in his field, has secured more than \$33 million during his 22-year career in academia. His work has contributed greatly to Virginia Tech's listing as the only top-50 research university in the state," Stephenson said.

TECH

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doing so by working harder and in increasingly crowded and outdated facilities," Hatzios said. "It's a situation where we will do all we can with what we've got, but we are dealing with finite resources in people and facilities."

Swiger agreed, noting, "A major barrier to our further research growth is the lack of modern laboratories and equipment." Programs in agriculture and forest resources are housed in 10 different buildings on the Virginia Tech campus, five of which were built before World War II.

"I think this makes a strong case for state funding of our much-needed Agriculture-

EYRE

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seven semi-finalists," Eyre said in a telephone interview last Monday. "It will be difficult for us to make the final cut."

Eyre said the candidates will have opportunities to interact with faculty and staff members, students and administrators. The candidates will be brought to campus separately and will spend three days here.

The council members discussed including a public presentation from the finalists, and the general consensus was that this would be a positive approach and would present the opportunity to hear the candidates' positions on various issues. Council members said a negative

aspect of the presentation was that it would add to an already tight schedule.

Eyre agreed that public presentations would make schedules tighter, but they would also prove beneficial in choosing the right candidate. By asking each candidate to respond to the same question (i.e., discussing the future of higher education, particularly as it relates to a university like Virginia Tech that is aspiring to be in the top-30 research universities), members of the university community can compare their responses and develop a standard for comparison between the candidates, Eyre said.

Eyre said Monday that the search process continues "to go very well." A successor to former Provost Peggy Meszaros is expected to be chosen before the end of spring semester.

Forestry Laboratory Building," Swiger said, referring to a proposed 100,000-square-foot facility for which the university is seeking state funding. "This research space is essential to hiring and retaining the very best scientists."

While the college is doing more research with the same staffing level and largely the same facilities it had 10 years ago, the university is depending on it to a greater degree in its bid to join the ranks of the top-30 research institutions nationally.

Based on the 1999 NSF rankings, the university's overall research ranking stands at 50th with \$169.250 million in sponsored research. For the just-completed fiscal year

2000, the university posted \$192.7 million in sponsored research. The next NSF ranking will be posted in December.

"Agricultural research accounts for 36 percent of the research and development at Virginia Tech," Hatzios said. "Just four years earlier, agricultural research made up only 30 percent of total research spending here."

The NSF defines agricultural science to include such disciplines as agricultural production, aquaculture, soil science, animal science, plant science, agronomy, forestry, fish and wildlife, and many more.

Also included is international agriculture. Virginia Tech agricultural scientists are working around the world on a variety of projects. The university's influence in international agriculture, however, reaches beyond the sum of the efforts of individual scientists. The university's Office of International Research and Development has garnered approximately \$57 million in contracts, grants, and cooperative agreements since 1991. The office provides leadership to agricultural researchers from institutions throughout the United States as they work on projects managed from Virginia Tech to benefit people in virtually all regions of the world.

The institutions ahead of Virginia Tech in the NSF rankings are the University of California at Davis, the University of Florida, the University of Georgia, and North Carolina State University.